NASA

DAN GOLDIN SPEECHES

WOMEN'S CONFERENCE

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COPY

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PROCEEDINGS

MR. GOLDIN: Good afternoon. Thank you for being here to honor NASA and the Air Force joint, the NASA/Air Force Joint Base Operation Support Contract, the Acquisition Team as they received the Hammer Award from the National Partnership for Reinventing Government.

First, I want to thank Vice President Gore from driving the initiative to re-invent Government. The American people are thankful for that leadership in this area, and have saved the taxpayers billions of dollars.

I think Morley Wintergrad, who is here from NPR on behalf of the Vice President. It must be rewarding for you, Morley, and the rest of the Vice President's team to see first-hand evidence that your work pays off for the American people.

I want to recognize the people whose leadership was instrumental in making the base operations team a success. Lloyd Bridges, director of the Kennedy Space Center, and Brigadier General Randall Starbuck, commander of the 45th space wing. I love that name.

GENERAL STARBUCK: Isn't that a great name. I'm going into the coffee business when I retire.

MR. GOLDIN: Together you provided the continuous executive leadership necessary to pull off this sort of joint venture and make it succeed. And I know all the doubters,

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all the people who said, no, never be done, couldn't happen, no. And there were all sorts of people who threw roadblocks in your way, and the two of you pursued it, and you succeeded, and we really appreciate that.

I also want to thank General Richard B. Meyers for making the U.S. Space Command a model of excellence that inspires all of us to continue reaching for the stars. And I also want to say on a personal note, it has been my honor to work with you on issues of interest to the security of this nation, and I look forward to further working with you on that subject. The Air Force is one of our most important partners, because of what you and the Space Command do each and every day, and make it look easy.

Most importantly, I want to salute the members of the NASA Air Force Team, especially team leaders Chris Ferry and Ed Gormel, who have the initiative and determination that made this award possible. You deserve another round of very loud applause, because you did it.

We know that humans have used variations of the hammer at least since the fourth century BC. Back then, it was just a stone used for pounding, but a very necessary tool. But the hammer has also always been used to make progress, to move society forward. And this Hammer Award is no different. Award winners have demonstrated the ability to move our society forward by making their Government more

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effective.

The Base Operations Team has done an amazing job. The partnership you have developed will allow Cape Canaveral Air Station and the Kennedy Space Center to remain the world's premier gateway to space while reducing costs to the Government and the U.S. taxpayers.

The performance-based contract system you have implemented has led to, among many other accomplishments, a 95 percent reduction in the statement of work, a 64 percent reduction in compliance documents, and a 97 percent reduction in contractor reliance on Government-furnished property.

The substantial savings from this cooperative effort, over 20 percent of operating expenses, by prior agreement, are being re-invented on both the Air Force side and the NASA side to make us safer and even more cost-effective.

And I think this is a very important activity, given the tremendous pressures of the Federal budget, to be able to make improvements at a savings. And the taxpayers note it, and so do the astronauts and the operation teams that have to protect our country. As space activity becomes a bigger and bigger part of the world's economy, these re-investments will allow Cape Canaveral and Kennedy to maintain their leadership role.

I am extremely proud, NASA has been involved in 12

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different projects that have received the Hammer Award. The entire NASA team has pulled together to prove that faster, better, cheaper means we work smarter too. As we move towards the new millennium, I am excited about strengthening our partnerships with the Air Force. I am extremely proud of them too. I am eager to see the progress we will continue to make as we work together to make America stronger and safer.

Again, I want to thank the members of the Base Operations Team for your hard work and dedication. Your example inspires all of us to continue improving our Government and making our nation a much better place for everyone. Thank you very much.

(Off the record.)

VOICE: Apollo 11 Anniversary Event, July 16th.

(Off the record.)

ANNOUNCER: -- that is going to lead this country and this nation, and a generation yet to come in the future. Dan, do you want to come up and talk to these folks?

MR. GOLDIN: Thank you, Gene. I stand humbly in the presence of such greatness, these people I worked with when I was student, and then a junior designer. Why don't you give you all, yourselves an unbelievable round of applause because each and every one of you that made Apollo happen is great.

There are two other great people here, the people

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who made this event happen. George English, George English and George McGuire. Could you please stand up, and let's thank you again.

It is an unbelievable celebration, and seeing all these people here sitting under this great rocket, is an experience that I don't want a picture of with a camera, but I want to keep this picture in my mind.

And throughout the evening we've heard about the possibilities, the things that didn't quite happen. But to all those who worked on Apollo, let me assure you, the people who are working at NASA, on your NASA team, both the Government employees and the contractors, deeply believe in the American vision and the American spirit. They work darn hard, and they're going to do great things.

And let me tell you what I think we'll all celebrate when we come back for the 60th anniversary of landing on the moon. A few things are going to happen. We'll be seeing pictures not on flat screens, but in total immersion virtual reality. And if they exist, we will see images of earth-size planets around other stars. And if those planets have life on them, we will have detected it, and we will have understood it.

We're going to build telescopes that are so unbelievable, it is hard to conceive of today. But these telescopes will have the capacity to have a resolution of 10

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miles at 1,000 trillion millions. If there are river beds and flowing rivers, we will see them. Oceans and continents and clouds and mountain ranges, we will see them.

If there are variations in seasons, we will see it. If there is a variability in thermal emissions, we will see it. And by this point in time, we might not have launched an interstellar probe to those planets, but we will be in interstellar space with robots.

The robots that we will send in interstellar space in 30 years will be walking devices, self-autonomous devices, self-sensing devices, that will have their own genetic code. A launch that is -- (inaudible) space craft, they'll land on an asteroid and suck up the minerals based on the genetic code, and go off themselves and get ready for their interstellar space flight.

We will have completed a census of our own solar system, bringing back samples from every key planetary body. We will have communications network, an interplanetary internet around these planets and virtual presence on each and every one of the key planets and the moons and asteroids and comets in our solar system for the children in their classrooms here in American and on earth.

We will have spacecraft that before the people arrive will initially go as intelligent individual robots and then ultimately as colonies of robots. These colonies of

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robots will have the capacity to pick a leader, and eliminate a leader. They'll have a capacity to work together and build things.

They'll have the capacity to build up the resources needed so when the astronauts arrive, they won't have to waste their time with mundane tasks, but they'll use their intelligence, their adaptability, and their dexterity to perform the critical science and other operational tasks that have to happen.

And in no less than 10 years, and certainly no more than 20, because the American people are feeling good about themselves, and there is serious -- we're going to see astronauts on the red planet. There is no doubt in my mind.

So tonight, go home and sleep easy. Your NASA team shares your spirit. We have taken your spirit. We understand what you did. We're going to open the space frontier and show them in America, 30 years from now, show them that haven't been born who will live in a great nation. And this nation is going to lead this world, because of what your NASA team is going to do for America for the space program. Thank you very much.

(Off the record.)

VOICE: It is a hot, wet afternoon. July 17th. Alabama. Saturn V.

(Off the record.)

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MR. GOLDIN: Thank you, Bud. (Inaudible.) -- who helped put us on the moon. And especially my dear friend -- (inaudible) who I met in 1962 and was my idle when I was a junior engineer -- (inaudible). And I promised you -- (inaudible). And we're going to be there for you.

I also would like to thank Michael Lesting and Mike Wing, for their leadership in the Commission that worked so hard to get this job to happen. And most of all, I would like to thank Bob Stevenson, a man of vision; a man who I have great confidence in; and a man who is going to lead America; not just America but the world.

I'm a little competitive. I don't just want us to have the best rockets in America. You have to have the best rockets in the world.

The future of our children and grandchildren in the 21st century are going to depend upon our ability to get into space much safer and much less expensive. And Art has been challenged to go make that happen, and he's on a great path in restructuring America's access to the space program. And it is very fitting to be in the shadow of this great rocket.

When we fly into Huntsville, and we do it quite frequently, I'm pretty familiar with the landscape, all the fields, all the new buildings going up, and one can't distinguish Huntsville from any other place in the nation when you take a look at all the growth going on around the

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nation.

But today, Huntsville has a shining beacon. There is this 363 foot machine that could withstand tornadoes? Is that what you said? You see that. You can see it standing up. And there is a very distinctive element that no other city in the world will have other than Huntsville, Alabama.

And we celebrate the past, but also we celebrate the future. And I would like to just take a little moment to recognize the fact that there is an Apollo astronaut who did great work on Apollo 12, and we just lost him a week ago, Friday, Pete Conrad. Pete Conrad was a dear friend, and he would be very, very proud to be here to celebrate this great beacon in Huntsville, Alabama.

But also, Pete Conrad was a visionary and was involved in the plans for the future, working on the -- here at NASA Marshall. So let's all think and celebrate the past. As I told the assembled astronauts last night, the Apollo crew last night at NASA Kennedy, we are very, very humbled to be in the presence of those who got us here.

But to those who got us here, be proud of your NASA team. You have the brightest people in the world working real hard, standing on your shoulders, that is going to get us to Mars. And we're sure in that the 21st century, America has the best rockets in the world. Congratulations Huntsville.

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(Off the record.)

VOICE: July 20th, Women's Initiatives Speech.

MR. GOLDIN: I would like to welcome everybody to the Kennedy Space Center, and the launch of the -- spacecraft this evening. Today is a rather emotional time for us at NASA. It's the 30th anniversary of the landing on the moon, and it is the first launch that we will have a woman commander of the space shuttle, Colonel Eileen Collins.

On a sad note, it is the day after we have found out that the man who got the space program going, his son was lost along with his son's wife and sister. And President Kennedy meant a lot, meant a lot to us. And it is an honor for me to be in such distinguished, among such distinguished Americans. And I started making a list of everyone who I would introduce, and then I started introducing everyone in the room, so I won't do that.

But there are two groups of people who I would like to introduce. And the first is a group of young women that work on websites designed for young girls. Would you please stand up and be recognized? We at NASA are very proud of what you're doing, and it is wonderful work that you are working on.

There are three very important women who flew down with me from Washington. We have Silvia Matthews, who is the Deputy Director of the Office of Management and Budget. Is

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Silvia here?

VOICE: She stepped away for a minute.

MR. GOLDIN: Okay. And Janet LeChance is the Director of Office of Personnel Management. Is Janet here? Oh, there she is. There's Janet. And one of the strongest women in the House, Doretta Sanchez, Congresswoman Sanchez from California. I think it is Congressman Sanchez that powered the plane down here. Oh, my wife -- (inaudible). I wonder how long it will take me to dig out of that hole.

In May, Judy and I went back to California to celebrate the birthday of our two-year old granddaughter, Jessica. And Jessica doesn't know about boundaries, and she doesn't know what can't be done. She doesn't know that little girls are not supposed to climb up to the ceiling and cabinets in the kitchen. She doesn't know that she's not supposed to get unfair treatment. Is the Administrator supposed to be -- (inaudible).

Just a little story about the determination of my granddaughter. I was speaking to my daughter just before the birthday party, and she said, do you want to speak to Zachary, my grandson. I spoke to Zachary, and then she hung up the phone. And Jessica, who is two, insisted on equal time. She wanted to speak to Papa, so my daughter had to call me back, and she was going to speak to me.

She doesn't know boundaries. And this is

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important, because the little girls who grew up in the house with me had boundaries that Jessica doesn't have. And she knows those boundaries, her grandfather has high hopes for her. I hope for her to be a rocket scientist because she's a genius. She's inquisitive. And she's determined never to give up. And these are the qualities of a rocket scientist. I see the spark in her eyes. But I want to see the bonfire in her belly when she's 20.

And even though this is 1999, the glass ceiling is still there. 1 percent of the commercial airline pilots are women. 1 percent. 8 percent of the engineers in America are women. Only 15 percent of the students in the universities that are enrolled in science and engineering are women. Yet if you pick up the newspapers, you see America is facing an unbelievable crisis. We don't have enough high-tech workers. We don't have enough people to do the jobs that need to be done; yet the women are relegated to lower elements of the work force, and we haven't filled the pipeline.

There is talk about going overseas to bring people to America, young males from other countries, to fill these empty job slots in high tech and aerospace. But if we had a 50 percent representation by women in the high-tech, in the aerospace, the economy of America would soar.

And the issue is not a social issue. It is an issue that is absolutely essential for the 21st century. And

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NASA was no different just a few years ago. When I arrived at NASA, there was only one top woman executive, as a director four to me, at about 30. There were very few other senior executives. There were no women shuttle pilots. There were no women shuttle commanders. And so it went.

And when I would go speak to people, they had this image in their minds about what it was for a women to fill senior ranks at NASA; and they had the image, and they weren't bad, but the image was of a crew cut with a pocket protector and some dorky glasses with short sleeves on their shirts.

But we have to extend the net wide if we believe in the future of this country. We did that at NASA, and we have had some significant success. Not only is Eileen Collins the commander of this shuttle, but for this flight the mission manager is a woman. So is the flight director. And the person on CAD-com, the only astronaut that is allowed to talk to the crew, is also a woman. So there is great -- (inaudible).

And just five weeks ago, we appointed the first woman chief scientist of NASA, Dr. Sally Olson.

DR. OLSON: Kathy Olson.

MR. GOLDIN: Kathy. Kathy. Kathy also does great rock and roll. She sang "Brown Eyed Woman" at our picnic down in Huntsville. And then you've already met Becky Wilby

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who organized this conference.

And I'm extremely proud of the panelists who you are going to hear today. Sally Ride, the first woman in space, American woman. Sally Russe. Sally, are you here? I know Kathy Sullivan is here. She's the first American woman to do an EVA, extra vehicular activity. Are you here, Kathy? There she is.

Eleanor, Dr. Eleanor Cho, the first Hispanic woman in space. Great scientist from the NASA Davis Research Center. And Jennifer Harris, is she here tonight? Jennifer. (Inaudible) -- in mission control when we landed a robot on Mars. And I think you were 27 years old at the time, all of 27?

MS. HARRIS: 28.

MR. GOLDIN: 28. And we're very proud of Jennifer Harris. This is great, but it is not enough. We just can't have women we can identify. We need thousands of women. And if Jessica is going to be a rocket scientist and design that interplanetary spacecraft that I've challenged the NASA team to do, we're going to all have to do better.

So what I ask you to do tonight in these seminars, is to talk about these subjects. Think about it. What is it that we can do at NASA? We are very high profile. We're very high visibility. And we are proud of what we do for the American people. And any young girl in America ought to know

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that she can do anything she believes in her guts that she can do, and not be limited by any arbitrary set of rules.

I see the head of the Women in Aviation. We challenged her organization, 5000 strong, that each member spend an hour a week talking to 30 children each week in the schools, so these young people could see role models. We're prepared to develop training material, prepared to form training, prepared to be a resource.

Many of you come from many different groups. NASA is committed to the future of American, and the future of America will never be realized unless each of the organizations that we have, each of the things we do looks like America, and is not talked about to be like America.

So get back to us. Think about Jessica, my genius granddaughter, and open the space frontier, and tell us what you think we ought to be doing to make America a better place.

And now I would like to introduce someone who all of you are familiar with; someone who has worked tirelessly to protect our children; to keep us healthy; and to make our nation a better place. I would like to introduce to you another passenger who came down with me to Cape Kennedy, the Director of Health and Human Services, Secretary Donna Shalala.

(Off the record.)

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VOICE: -- Administrator for the last 48 hours, he can only imagine what his life has been like. He presided over ladies night last night, as you all know at Cape Canaveral. Although it was not meant to be last night, I feel quite sure he will be there again when it does go. He is committed to the future of this Agency, to the future of the country and the world. He is truly an inspiration, our leader, Dan Goldin.

MR. GOLDIN: The last week and a half has been very, very intense, very, very emotional for a whole variety of reasons. The celebration of the landing on the moon, which will probably be a millennium from now one of the things noted in the history books that young children read, because it was an unbelievable achievement. And I'll come back to that in a minute.

The death of a number of dear friends, Pete Conrad dying, and Jordan Brown, all cause me to think about space, why am I personally so excited about it. And I want to express myself. And I had that opportunity when Lou Dobbs, who left the CNN financial network and is found at Space.com, came to see me just a few days ago.

And I was talking to him about my emotions, not about the rationale of the space program. And he said, you know, I'm going to put that down on a piece of paper. And we're going to have the first issue of Space.com coming out

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on Tuesday, July 20th of this year.

So over the weekend I put together my thoughts. Now, these thoughts pertain to personal, emotional experiences that I have had with the astronauts on the space shuttle. Although I did work on Apollo, on a number of aspects as a junior engineer, I did not personally go to launches. I did not personally involve myself on an emotional level with the program.

But I would like you to read these words that I wrote, and I would like to ask you to think about what they mean to you. They mean a lot to me. So let me go ahead.

Not too long after I became NASA Administrator, I ran into a friend. She talked to me about the space program, and took the opportunity to test me. She asked, why do we spend money on space when there are so many ills here on earth.

Instead of describing the incredible scientific research we do, or making a case for the investment we make in America's future, I said, come to a launch and you will understand. I dispensed this advice based on my own personal experience.

Prior to coming to NASA, I worked for a major space company, and for a time I was responsible for many of the shuttles very large payloads. I was proud of my work. I can talk about the potential for discovery, the edge it gives our

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economy, and how some projects were crucial to our nation's security.

But like my friend, I didn't truly grasp the significance of human space exploration. I rarely went to the Kennedy Center for launches, and somewhat selfishly, I only kept in touch by phone to learn of our spacecraft's release from orbit, into orbit.

It wasn't until I started to make a point to watch the launches that I understood the emotion of space. As the person who has ultimate responsibility for the safety of the astronauts, it is no longer -- it was no longer a business proposition. Knowing the astronauts, knowing their families, all of us on the NASA team know, we each must do our jobs right.

In the dynamic moments before liftoff, we wish them a successful mission and a safe return home. We make it as safe as possible, but we know that the men and women aboard the space shuttle are risking their lives to open the space frontier and enhance life on earth.

Viewing a space shuttle launch is not an intellectual experience; rather, it is an emotional one. And like most things in life, it cannot be fully appreciated through the lens or played back through a TV screen. The moments before launch there is always a tension I could never adequately seem to describe.

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I don't watch the launches from the control center, partly because I want the members of the launch team to take full responsibility for their tasks, and to remain accountable to the American people. Their jobs require split second decisionmaking skills. Conventional wisdom may call for added layers of supervision in such a critical situation.

In this case, however, delayed judgment could be the difference between success and failure. For me, the place to watch is outside on the bleachers with friends, family, employees, fellow Americans, and our foreign guests. Together we share one of the most awesome displays of shear power as the astronauts are catapulted into space.

As the launch time approaches, more and more people arrive. The viewing site becomes a beehive of activity. The cameras start working. Conversations grow louder. The combinations of sounds drown out the pre-launch commentary. It isn't until build and hold occurs at about T minus nine minutes, and a call from launch control declares all systems are go that there is a shift in the crowd's mood.

There is a brief applause. But as the countdown resumes, so does the chatter and movement. Shortly after the "Star Spangled Banner" begins to play over the loud speaker, and for the first time, the crowd seems to appreciate the weight of the moment.

Some people are singing, some are saluting, and

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some are praying silently. The space shuttle and launch tower appear to be standing at military attention. The words to the National Anthem play through your mind like they have 1000 times before, but this time at the home of the brave a giant lump has formed in your throat, and a mist has glazed over your eyes.

As the countdown clock ticks away, you cannot help but think that people are sitting atop 4.5 million pounds of high energy fuels and complex aerospace machinery. Subconsciously, it becomes a life and death experience. First your breathing slows, then your heartbeat becomes noticeable, and then an uncomfortable muscle tension fills your body.

You don't want to talk with anyone, and your eyes are fixed on the shuttle. You begin listening intently to the words of the launch commentary, to try to pick up any nuances. Are there any problems? We make it as safe as possible, but we know that the men and women aboard the space shuttle are risking their lives to open the space frontier to enhance life on earth.

As you watch from three miles away, you try to imagine what must be going through each astronaut's mind in the moments before lift-off. My adrenalin is flowing and I'm not one of the people that's about to go 17,500 miles per hour into space. Just 15 minutes ago you were part of a

crowd and now you might as well be alone as you stand among thousands of other who do the same amid the silence.

T minus 10, nine, eight -- God, it feels like an eternity. Is it just me? Seven, six -- the engines are whining and we haven't even reached T minute one yet. What's going on. Five, four, three -- wait, flames are pouring out of the shuttle, just moved back and forth in the tower -- the shuttle just moved back and forth in the tower. Is something wrong?

Two, one -- lift off of the space shuttle. Slowly if in time-lapse photography the shuttle climbs upward. At first it seems surreal as the massive space ship appears to hover at the tower, yet it is still barely quiet.

Still in a dream-like state you see huge clouds of smoke, and then a light from the rocket engine that seems nearly as bright as the sun. Out of nowhere, a rumbling shock wave comes across the water, and the sound reaches your chest and shakes you back to reality. It seems like the sound band had realized you forgot to connect the speakers when an unnatural thunder and crackle from the shuttle's engines reaches alarming levels.

What's that sound? Is it supposed to happen? In just a few seconds, any doubts that the rocket is powerful enough are dispelled. Once those twin-celled rockets are lit at T equals zero, there is no turning them off. Then at 40

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seconds, to ensure the vehicle's pressure limitations are not exceeded, the three-main engines are throttled down to idle. Straight up, faster than the speed of sound.

At 70 seconds the astronauts get a command from mission control to urge the beat back up to full throttle. A knot forms in your gut and all ears are honed in on the launch commentator as he calls the order. Go at throttle up. Challenger passes through your mind.

Another few seconds slowly drift by until the commander calls back and says, we're go at full throttle. Two minutes and five seconds, at nearly five times the speed of sound the expended solid rocket engines are jettisoned and parachuted to the ocean.

Another call to the astronauts is made. Performance nominal. The almost insignificant term is the astronaut's signal that the first stage of their journey into space is safely behind them.

I heave a sigh of relief, and the weight begins to lift from my shoulders. But it isn't until eight and a half minutes later, when the engines explosive hydrogen and liquid oxygen fuels are depleted that we hear the call for main engine cut-off. Our astronauts have climbed safely to orbit. Thank God.

We take our first real breath since lift-off, and then let out a big cheer. We make it as safe as possible,

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but we know that the men and women aboard that space shuttle are risking their lives to open the space frontier to enhance life on earth.

A light streaks higher and higher, leaving a graceful white trail in its wake. As the engine sounds fade away, we all try to follow the astronauts' path. Soon they have disappeared into orbit.

I ran into my friend at a speech shortly after she saw her first launch. She said, Dan, I have to speak to you. I said, I'm about to deliver a speech, can we talk later? No, she said. I have to tell you that I went to see the space shuttle launch. I realized that there were three million things that could go wrong, but they didn't. I understand and I cried. She got it.

Yes, NASA has cool robots that rove over other planets and cutting edge telescopes that peer into other galaxies. But the heart and sole of NASA are our astronauts. They are the role models on which children pin their hopes and dreams. They connect us with our ancestors, those who founded this great country and bravely explored the next unknown horizon. And they help us understand that we are only human. Thank you very much.

(Off the record.)

VOICE: July 20th, Art Train.

MR. GOLDIN: Thank you, Burt. I believe that Burt

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and Debra Pollack, the leaders of the Art Train organization are doing an outstanding job for our young people and old alike across the country. Let's give them a round of applause.

Tom Croach isn't here. He is the curator for the National Air and Space Museum, along with Burt Alrich who is here. Burt, do you want to come forward and identify yourself? This young man is a curator for NASA.

And I know there are also a number of the people who painted the art work for NASA under our commission. Could you please come forward and let's recognize you also, because you have done a wonderful job for us.

It is the artists that do the work. And I would like to thank the staff at the Air and Space Museum, especially their leader, Don Angin, who passed away and was a dear, dear friend. He to was crucial for our ability to communicate with the American people.

Here are the artists. Now they can take their bows, again. They are wonderful. Thank you.

On the Art Train you will see NASA's history unfold through the eyes of American artists capturing the Apollo 11 crew from suit up. Using a three-D picture from the Mars Pathfinder to create unique clothing. Interpreting through painting aeronautical feats like the F-15, the first reusable space vehicle.

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Over 250 artists created 800 pieces of art in NASA's current collection. And the National Air and Space Museum has over 2100 pieces of NASA's art in its archival collection.

I particularly wanted to, wished to thank Susan Lawson Bell who curated this wonderful art show for us. Is Susan here?

The NASA art program provides a legacy for future generations. Like the ancients whose cave drawings or weepings remain to reveal the texture of their lives, we hope to capture the curiosity, the challenges, and the spirit of adventure in our nation's space program for the millennium to come.

Recently, I challenged my staff to expand the NASA art program, and diversify artistic expression. This is an ambitious effort, but we're already making gains on three fronts. First, I felt it was crucial that the art of NASA reach more Americans, not where the space program is, but across the land where the Americans are.

And our first step is with the Art Train. So thanks to Art Train, NASA art will reach over 100 cities, especially children that haven't had a chance to take advantage of what's happening in art.

Second, I want us to embrace different disciplines of art, beyond the visual, to include poetry, writing, music,

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and even perhaps dance. Well, last night at Cape Kennedy, singer Judy Collins, our latest artistic commission, performed and outstanding tribute to space shuttle commander Eileen Collins, no relation, entitled, "Beyond the Sky." It was gripping. And I'm just pleased that we could expand in that direction. In fact, it touched the First Lady who was down at the launch.

Also, famed photographer Andy Liebovitz captured Commander Collins as she trained for the flight that she's on now. And third, and most importantly, I want us to work with a diverse variety of artisans who represent what America looks like. NASA's accomplishments should be interpreted by a more complete representation of America's cultural identity, and towards this end, we are diligently working to find talented artists across the nation.

We work with museums and galleries like the L.A. County Museum of Art, the New York Museum, Metropolitan, and the Hirshorn Museum here in Washington. I am happy to announce tonight that we are discussing a new art project with the distinguished Guggenheim Museum in New York.

It is my personal pleasure to make NASA as accessible to America as America deserves. And I hope you enjoy your tour of Art Train. Like many of us who were inspired to transcend our limitations through those triumphant images of Apollo astronauts setting foot on the

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moon, I hope this collection of NASA art inspired every person who sees it to reach new heights and understand that in America it only counts what you do or what you believe not where you came from.

(Off the record.)

VOICE: EDP remarks, July 21.

MR. GOLDIN: This has been a very busy seven days for me, as we celebrate the 30th anniversary of the landing on the moon. And we have a shuttle flight coming up. We had one shot at it. We have another shot tonight. And then there have been a number of deaths, and it has caused me to think a lot about the program.

And nothing says it better than this article that appeared in USA Today's Sports section yesterday, than this. It is talking about, the article is called, "Soccer Champs Net Big Day," and it was about the women's soccer team that went to the White House to celebrate their victories with the President.

And then one of the women on the team said, the White House is really cool, but I'm really excited about the NASA launch. That's once in a lifetime. I had invited the soccer team to come down and watch the launch the other night, and here they had won the World Cup. They spent the day with the President; but what they really were looking forward to was to watch a NASA launch.

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And that is what really says it about the organization you work for. This is a very, very special organization.

If you are in some of the big cities, it gets lost, with the focus on day-to-day activities. But once you get outside of the beltway in Washington, or you get outside of New York City or Los Angeles, it is unbelievable the amount of interest that the American public has in the space program.

When I go to places where the American public is, it is almost like being in a holy temple with them. The NASA Administrator is looked upon as being almost next to God -- not me, the individual, but the spot that I occupy. I never forget that, because when you work at the Agency, it is not a job. It is a privilege.

There are an incredible number of people who would die and go to heaven to have the spots that you have. Not only are you in the Agency, but you have now become a part of the leadership of the Agency. And each and every day we have to earn the right to have the jobs that we have. And we are the program that is funded by the American people.

Now, being space enthusiasts, we sometimes assume everyone just loves the program, and the money is going to come to the program, and why don't they understand it. But the fact of the matter is, each and every day we have to earn

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the right to work at NASA, and each and every day NASA has to earn the right to have the American people fund the program.

And once that concept sinks in, you will understand how important it is for you who are upper management, to communicate clearly, openly, and effectively, in what you do to all people. There is a tendency to focus on what you are doing, and work with an unbelievable amount of energy to make that happen exclusive of other things.

And sometimes I'm sure you'll be shocked, there are those in NASA who would rather see other programs in NASA killed than have their own program survive. There are those in NASA who feel that what they are doing is so important, it is okay and acceptable to go around the system. This is what I call scientific cannibalism, and it doesn't work.

Now, there is one issue that underlies everything we do, and it is without a doubt the principal value, the number one value of NASA, and that is safety. It is something I talk about at every meeting when I get together with the executive management of NASA.

And that is, there are four areas of safety that we worry about. First, the American public, who is not part of the space program, but can be impacted by it if we launch a missile like into Miami, or rocket ship. That would be unconscionable to hurt the American public.

And as we more and more go to reusable launch

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vehicles that are going to fly over land, not water, that responsibility is going to be more and more clear; that we have to make our systems so safe people should not have to worry about debris landing on them or their families.

And it is not theoretical. There is a major concern going on in France right now, because one of the French entertainers said that the Mir station was going to land on France on August 11th during the solar eclipse of the sun.

Well, you laugh about it, but the fact that people are concerned about it says that we have an enormous responsibility. So the number one thing we want to worry about is the life and safety of the public.

Second, we want to worry about the astronauts who are pilots, who fly the machines we design and operate. They are taking risks to open the space frontier. They are taking risks to understand the weather, the atmospheric conditions in our flight, and they deserve the utmost commitment on our part.

It would be unconscionable to have to go talk to the family of one of our astronauts or pilots, if they were to die or get hurt because of negligence on the part of NASA employees who were worried about budget, who had their own problems when they came to work that day. So being conscious of that is very important.

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Third, people have mothers and fathers and sisters and brothers, and husbands and wives, and they come to work each day. And sometimes when they come to work, if we are negligent, someone could get hurt. It would be terrible to disrupt the life of that group of people because we could have taken steps to prevent it.

And then finally, we have the trust from the American people for high value assets. We spend money on launching space craft and rockets. We spend money on operating aircraft, and very complex, somewhat dangerous facilities on the ground if we're not careful.

And I ask all of you to think about this, before you worry about electrons rotating around protons, before you worry about opening the space frontier, if you don't do it safely, you're not doing your job.

A new company was formed during the Revolutionary War to make gunpowder. And even when that company was formed, the owner of that company thought about safety, where he located the facilities, where he put up barriers. Today, the Dupont Company is the safest company in the world, even though they operate very dangerous, toxic, high temperature pieces of equipment. They are 30 times safer than NASA.

I have set an objective that within the next five years, NASA will be the safest organization in the world. And the interesting thing about Dupont, their financials are

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outstanding. So my point is, if you concentrate on safety and quality and reliability as the primary driving force, the dependent variable is cost. And costs come down at an unbelievable rate.

There are those who talk about safety on the shuttle, and some of their focus on safety is job security. And when you talk about safety, and hide behind safety, you don't get real safety. And I'll give you an example.

When I arrived at NASA, we had to shut the space shuttle main engines down a few milli-seconds before the solids were ignited. There was a problem with the engine, and it had to do with an uninspectable part. And what they did is they doubled the number of inspectors, because it looked good. They were taking action, but they didn't get to the root cause of the problem.

Now, did the astronauts get any safer? No. But were they able to take a position and tell the press and the American people, we did something? Yes. Did people have more job security? You bet. We took 10,000 people off the shuttle. It is now five times safer today than it was in 1992, because we do root cause analysis. Yet there are still people who whine in cry that we need people on the shuttle for safety.

Now, anytime anyone has a concern, a real concern about safety, we will address it. You have to be ever

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conscious of this. And in fact, the launch was struck by one young man the night before last, and he was uncomfortable with a sensor on the space shuttle.

He singly made a decision which after the fact we could have flown. We're going to give him an award tonight because he did the right thing. I don't care how much money it cost us to turn it around. In fact, the First Lady was at the launch with me, along with cabinet secretaries, and -- we all were thankful to this young man who delayed the launch, but he did the right thing. That is real safety.

At T minus 16 seconds he saw an anomaly. T minus eight he shut it down. And then it was clear that it was just a spike in one of the instruments. And he said, I made the decision because I knew if I didn't do it then, I couldn't stop the launch.

We are very interested in that. We are going to add significant dollars to the shuttle budget, to make safety upgrades to the shuttle. But they will be real safety upgrades, not putting inspectors on to put on a dog and pony show for the press.

So what I want each one of you to think about is you are now part of the NASA leadership. You are responsible for the lives and the health and well being of real live people. You are personally responsible for their lives and well being.

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And when you go into the office in the morning, think about all the people in your sphere of influence, and concern yourself to know them. Get to know them so they're not just a name on a chart.

I talk to each and every astronaut before the flight, and tonight I'm going down there early. I will meet with each and every family member that is at the launch, because I want them to know that I am responsible.

(End of Side One.)

MR. GOLDIN: -- and that's not much. So you have to have a sense about people as you are part of management, because they are relying on you to have that sense about them.

Let me give you a few things to think about. First, set priorities. Set safety as your number one value, and make it part of what you do. As you design systems, design in the safety for the systems. Don't assemble it and inspect it. We've made fundamentally bad decisions about the shuttle. Good people make bad decisions.

So now we assemble them in safety, and inspect it, because we design it in. And as a result, if you can design in safety, you don't need all the people to assemble and inspect it. Understand that. Understand about the safety of the people who you are responsible for.

Second, prioritize what you do. How many of you

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have gone to a staff meeting and spent a half hour or an hour and talked about 10 different things? Think about it. There is a rule called Miller's rule of seven, plus or minus two. It was developed by, I guess, a psychologist named Miller.

And it says that the human brain operates at an incredible speed, but the sensory system can only operate in a linear fashion and is a very narrow band. People can't absorb more than seven, plus or minus two things. Preferably, stick to about two to four things.

Because what happens is, you make a big long list, and nothing gets accomplished. People take notes from your meeting, and go to the next one. And as you go higher in the organization, there is this tribune that comes down through the organization.

Be consistent and pick a few things and stick with them and never change them. I listed seven things on a piece of papers before I became NASA Administrator. I haven't deviated once. I've stuck with it. You know what you've got to do.

And care about people. Always strive for excellence. Don't accept second rate work. And as a leader, always be honest with your subordinates. When they are not performing, tell them. Tell them to their face, not to their subordinates or not to your peers. Call them in. Shut the door, and tell them, you are not performing and this is what

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you need to do to fix it.

And then, after the second or third time, take action. People don't fail. Supervisors fail because they've put the wrong person into the job, and then when failure occurs they point their finger. That's unacceptable.

There are seven or eight people of 20,000 at NASA that get unacceptable ratings. It is shameful and disgraceful, and you have to be openly honest with the people. There are a number of people who I have talked to over the years who have come back to be years later and thanked me, because I called them in and told them they weren't performing, and they were failing.

Now, it is very difficult, and your guts are going to churn. But it is intellectually and emotionally dishonest to gloss over things when people are not performing. And at NASA, unless we are open and honest with people, it is never going to happen.

That is my advice. You are among the best we have. I know you are going to do great things, and congratulations on completing the course.

(Off the record.)

(Final speech inaudible.)

(End of recording.)

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CERTIFICATE

I certify that the foregoing is a correct transcript from the electronic sound recording of the proceedings in the above-entitled matter.

Teresa S. Hinds — July 28, 1999

Teresa S. Hinds — Date

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